

	A	B	C	D	E	F	G	H	I	J	K	L
74					Theta Star	414.6						
75					nu star	27.78						
76												
77					A-D Test Statistic	0.472						
78					5% A-D Critical Value	0.711						
79					K-S Test Statistic	0.711						
80					5% K-S Critical Value	0.313						
81					Data appear Gamma Distributed at 5% Significance Level							
82								SE of Mean	166			
83					Assuming Gamma Distribution			95% KM (t) UCL	1050			
84					Gamma ROS Statistics using Extrapolated Data			95% KM (z) UCL	1014			
85					Minimum	389		95% KM (jackknife) UCL	1045			
86					Maximum	1830		95% KM (bootstrap t) UCL	1310			
87					Mean	758.1		95% KM (Percentile Bootstrap) UCL	1033			
88					Median	532.6		95% KM (Chebyshev) UCL	1465			
89					SD	476.3		97.5% KM (Chebyshev) UCL	1778			
90					k star	2.586		99% KM (Chebyshev) UCL	2393			
91					Theta star	293.2						
92					Nu star	46.54		Potential UCLs to Use				
93					AppChi2	31.89		95% KM (t) UCL	1050			
94					95% Gamma Approximate UCL (Use when n >= 40)	1107		95% KM (Percentile Bootstrap) UCL	1033			
95					95% Adjusted Gamma UCL (Use when n < 40)	1202						
96					Note: DL/2 is not a recommended method.							
97												
98					ote: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UC							
99					These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006)							
100					For additional insight, the user may want to consult a statistician.							
101												
102												
103					Result_Value (mercury_mg/kg)							
104												
105					General Statistics							
106					Number of Valid Observations	9		Number of Distinct Observations	8			
107												
108					Raw Statistics			Log-transformed Statistics				
109					Minimum	0.024		Minimum of Log Data	-3.73			
110					Maximum	0.122		Maximum of Log Data	-2.104			
111					Mean	0.0516		Mean of log Data	-3.096			
112					Geometric Mean	0.0452		SD of log Data	0.513			
113					Median	0.041						
114					SD	0.0317						
115					Std. Error of Mean	0.0106						
116					Coefficient of Variation	0.614						
117					Skewness	1.75						
118												
119												
120					Warning: There are only 9 Values in this data							
121					Note: It should be noted that even though bootstrap methods may be performed on this data set,							
122					the resulting calculations may not be reliable enough to draw conclusions							
123												
124					The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.							
125												
126					Relevant UCL Statistics							
127					Normal Distribution Test			Lognormal Distribution Test				
128					Shapiro Wilk Test Statistic	0.768		Shapiro Wilk Test Statistic	0.896			
129					Shapiro Wilk Critical Value	0.829		Shapiro Wilk Critical Value	0.829			
130					Data not Normal at 5% Significance Level			Data appear Lognormal at 5% Significance Level				
131												
132					Assuming Normal Distribution			Assuming Lognormal Distribution				
133					95% Student's-t UCL	0.0712		95% H-UCL	0.0775			
134					95% UCLs (Adjusted for Skewness)			95% Chebyshev (MVUE) UCL	0.0891			
135					95% Adjusted-CLT UCL (Chen-1995)	0.0755		97.5% Chebyshev (MVUE) UCL	0.106			
136					95% Modified-t UCL (Johnson-1978)	0.0722		99% Chebyshev (MVUE) UCL	0.138			
137												
138					Gamma Distribution Test			Data Distribution				
139					k star (bias corrected)	2.728		Data Follow Appr. Gamma Distribution at 5% Significance Level				
140					Theta Star	0.0189						
141					MLE of Mean	0.0516						
142					MLE of Standard Deviation	0.0312						
143					nu star	49.11						
144					Approximate Chi Square Value (.05)	34.02		Nonparametric Statistics				
145					Adjusted Level of Significance	0.0231		95% CLT UCL	0.0689			
146					Adjusted Chi Square Value	31.39		95% Jackknife UCL	0.0712			

	A	B	C	D	E	F	G	H	I	J	K	L	
220	Potential UCL to Use						Use 95% Student's-t UCL 44.81						
221													
222	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UC												
223	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
224	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.												
225													
226													
227	Result_Value (total pcb congener ($u = 1/2$)_ng/kg)												
228													
229	General Statistics												
230	Number of Valid Observations			9				Number of Distinct Observations			9		
231													
232	Raw Statistics				Log-transformed Statistics								
233			Minimum	596176					Minimum of Log Data	13.3			
234			Maximum	4538571					Maximum of Log Data	15.33			
235			Mean	2245578					Mean of log Data	14.5			
236			Geometric Mean	1980326					SD of log Data	0.567			
237			Median	1870516									
238			SD	1126038									
239			Std. Error of Mean	375346									
240			Coefficient of Variation	0.501									
241			Skewness	0.863									
242													
243													
244	Warning: There are only 9 Values in this data												
245	Note: It should be noted that even though bootstrap methods may be performed on this data set,												
246	the resulting calculations may not be reliable enough to draw conclusions												
247													
248	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.												
249													
250	Relevant UCL Statistics												
251	Normal Distribution Test				Lognormal Distribution Test								
252	Shapiro Wilk Test Statistic			0.943				Shapiro Wilk Test Statistic		0.93			
253	Shapiro Wilk Critical Value			0.829				Shapiro Wilk Critical Value		0.829			
254	Data appear Normal at 5% Significance Level				Data appear Lognormal at 5% Significance Level								
255													
256	Assuming Normal Distribution				Assuming Lognormal Distribution								
257	95% Student's-t UCL			2943552				95% H-UCL		3728595			
258	95% UCLs (Adjusted for Skewness)				95% Chebyshev (MVUE) UCL 4190605								
259	95% Adjusted-CLT UCL (Chen-1995)			2978369				97.5% Chebyshev (MVUE) UCL		5017398			
260	95% Modified-t UCL (Johnson-1978)			2961552				99% Chebyshev (MVUE) UCL		6641472			
261													
262	Gamma Distribution Test				Data Distribution								
263	k star (bias corrected)			2.832				Data appear Normal at 5% Significance Level					
264	Theta Star			792905									
265	MLE of Mean			2245578									
266	MLE of Standard Deviation			1334365									
267	nu star			50.98									
268	Approximate Chi Square Value (.05)			35.58	Nonparametric Statistics								
269	Adjusted Level of Significance			0.0231				95% CLT UCL		2862967			
270	Adjusted Chi Square Value			32.89				95% Jackknife UCL		2943552			
271								95% Standard Bootstrap UCL		2820076			
272	Anderson-Darling Test Statistic			0.266				95% Bootstrap-t UCL		3139522			
273	Anderson-Darling 5% Critical Value			0.725				95% Hall's Bootstrap UCL		3592619			
274	Kolmogorov-Smirnov Test Statistic			0.165				95% Percentile Bootstrap UCL		2856215			
275	Kolmogorov-Smirnov 5% Critical Value			0.28				95% BCA Bootstrap UCL		2896428			
276	Data appear Gamma Distributed at 5% Significance Level				95% Chebyshev(Means, Sd) UCL 3881673								
277					97.5% Chebyshev(Means, Sd) UCL 4589613								
278	Assuming Gamma Distribution				99% Chebyshev(Means, Sd) UCL 5980224								
279	95% Approximate Gamma UCL (Use when n >= 40)			3217268									
280	95% Adjusted Gamma UCL (Use when n < 40)			3480705									
281													
282	Potential UCL to Use				Use 95% Student's-t UCL 2943552								
283													
284	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UC												
285	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
286	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.												
287													
288													
289	Result_Value (total pcb congener teq 1998 (avian) ($u = 1/2$)_ng/kg)												
290													
291	General Statistics												
292	Number of Valid Observations			9				Number of Distinct Observations		9			

	A	B	C	D	E	F	G	H	I	J	K	L	
293													
294	Raw Statistics						Log-transformed Statistics						
295				Minimum	103.7			Minimum of Log Data	4.642				
296				Maximum	789.3			Maximum of Log Data	6.671				
297				Mean	355.8			Mean of log Data	5.746				
298				Geometric Mean	313			SD of log Data	0.553				
299				Median	321.5								
300				SD	193.1								
301				Std. Error of Mean	64.38								
302				Coefficient of Variation	0.543								
303				Skewness	1.422								
304													
305													
306	Warning: There are only 9 Values in this data												
307	Note: It should be noted that even though bootstrap methods may be performed on this data set, the resulting calculations may not be reliable enough to draw conclusions												
308													
309													
310	The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.												
311													
312	Relevant UCL Statistics												
313	Normal Distribution Test						Lognormal Distribution Test						
314				Shapiro Wilk Test Statistic	0.879			Shapiro Wilk Test Statistic	0.944				
315				Shapiro Wilk Critical Value	0.829			Shapiro Wilk Critical Value	0.829				
316	Data appear Normal at 5% Significance Level						Data appear Lognormal at 5% Significance Level						
317													
318	Assuming Normal Distribution						Assuming Lognormal Distribution						
319				95% Student's-t UCL	475.5			95% H-UCL	574.8				
320	95% UCLs (Adjusted for Skewness)						95% Chebyshev (MVUE) UCL						
321				95% Adjusted-CLT UCL (Chen-1995)	494.3			97.5% Chebyshev (MVUE) UCL	777.2				
322				95% Modified-t UCL (Johnson-1978)	480.6			99% Chebyshev (MVUE) UCL	1026				
323													
324	Gamma Distribution Test						Data Distribution						
325				k star (bias corrected)	2.784			Data appear Normal at 5% Significance Level					
326				Theta Star	127.8								
327				MLE of Mean	355.8								
328				MLE of Standard Deviation	213.3								
329				nu star	50.11								
330				Approximate Chi Square Value (.05)	34.85			Nonparametric Statistics					
331				Adjusted Level of Significance	0.0231				95% CLT UCL	461.7			
332				Adjusted Chi Square Value	32.19				95% Jackknife UCL	475.5			
333									95% Standard Bootstrap UCL	456.5			
334				Anderson-Darling Test Statistic	0.322					95% Bootstrap-t UCL	531.9		
335				Anderson-Darling 5% Critical Value	0.725					95% Hall's Bootstrap UCL	1055		
336				Kolmogorov-Smirnov Test Statistic	0.172					95% Percentile Bootstrap UCL	458.7		
337				Kolmogorov-Smirnov 5% Critical Value	0.28					95% BCA Bootstrap UCL	485.7		
338	Data appear Gamma Distributed at 5% Significance Level									95% Chebyshev(Mean, Sd) UCL	636.4		
339										97.5% Chebyshev(Mean, Sd) UCL	757.9		
340	Assuming Gamma Distribution									99% Chebyshev(Mean, Sd) UCL	996.4		
341				95% Approximate Gamma UCL (Use when n >= 40)	511.5								
342				95% Adjusted Gamma UCL (Use when n < 40)	553.8								
343													
344	Potential UCL to Use									Use 95% Student's-t UCL	475.5		
345													
346	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UC												
347	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
348	and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.												
349													
350													
351	Result_Value (total pcb congener teq 2005 (mammal) (u = 1/2)_ng/kg)												
352													
353	General Statistics												
354				Number of Valid Observations	9			Number of Distinct Observations	9				
355													
356	Raw Statistics						Log-transformed Statistics						
357				Minimum	4.26			Minimum of Log Data	1.449				
358				Maximum	51.5			Maximum of Log Data	3.942				
359				Mean	21.63			Mean of log Data	2.844				
360				Geometric Mean	17.19			SD of log Data	0.788				
361				Median	19.27								
362				SD	14.04								
363				Std. Error of Mean	4.679								
364				Coefficient of Variation	0.649								
365				Skewness	1.024								

